COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Blue Ridge Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Elkay Wood Product Company
2000 Cane Creek Parkway Ringgold, VA (Pittsylvania County), Virginia
Permit No. BRRO-32035

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, the Elkay Wood Product Company, has applied for a Title V Operating Permit for its Ringgold facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Contact: _____ Date:
Margaret O. Wagner
(540) 562-6713

Air Permit Manager: _____ Date:
David J. Brown

Regional Director: _____ Date:
Robert J. Weld

FACILITY INFORMATION

Permittee
Elkay Manufacturing Company
2222 Camden Court
Oak Brook, IL 60523

Facility
Elkay Wood Product Company
2000 Cane Creek Parkway
Ringgold, VA 24586

County-Plant Identification Number: 51-143-00156

SOURCE DESCRIPTION
NAICS Code: 337110 – Wood Furniture Manufacturing Facility

The Elkay Wood Product Company (Elkay) operations consist of semi-custom cabinet manufacturing. Elkay receives particle board, plywood, and dimensionally cut lumber which has been pre-dried. There is no lumber drying kiln at the facility. Woodworking at the plant consists of numerous saw, planers, routers sanders, etc.

The finishing equipment consists of 19 spray booths, each equipped with a dry overspray filter for control of particulate emissions. The spray booths are configured as 3 lines of 6 booths each, plus one specialty line booth. Each finishing line is equipped with curing ovens; some are gas-fired and others are electric infrared dryers. Heat input capacity for the curing ovens are approximately 13.5 MMBtu/hr each.

Elkay manufactures wood cabinets. The facility is a Title V major source of volatile organic compounds (VOCs) and a major source for combined HAPs. This source is located in an attainment area for all pollutants, and is a PSD minor source due to a federally enforceable limit on VOC emissions. The facility is subject to MACT JJ for wood furniture manufacturing and there are no NSPS requirements currently applicable to the plant. The facility was permitted under a State Major NSR permit issued on May 23, 2005 with an amendment dated August 30, 2005.

The facility has an emergency generator that was installed prior to the promulgation of NSPS Subpart IIII. The engine qualifies as an existing engine under MACT Subpart ZZZZ. The MACT does not by itself require a Title V permit; however, the wood furniture facility must otherwise have an operating permit. Inclusion of these federally-enforceable applicable

requirements is required.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on July 18, 2012. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility was issued a Request for Corrective Action (RCA) on July 27, 2012 alleging noncompliance with Conditions III.B.3.a, III.B.3.b. and III.B.3.h of the Title V permit issued on January 1, 2008. The facility corrected their recordkeeping and the RCA was resolved on August 14, 2012.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled
WW1, WW2, WW3, WW4, WW5	BH1-1, BH1-2	Woodworking equipment	System Air Handling Capacity 71,180 cfm (each)	Fabric Filters MAC 144MCF494 or equivalent	BH1 and BH2	PM, PM10
WW6	BH3-1	Woodworking Equipment	System Air Handling Capacity 52,020 cfm	Fabric Filters MAC 144MCF361 or equivalent	BH3	PM, PM10
EG1		Emergency diesel-fired generator	250 bhp			
H1, M1 M2, S1		19 spray booths		Dry Overspray Filters		PM, PM10
J1		Curing oven for sealer and topcoat booths	13.5 MMBtu/hr			
K1		Curing oven for sealer and glaze booths	13.5 MMBtu/hr			

H1		Curing oven for the entire finishing line	13.5 MMBtu/hr			
H2		Curing oven for the entire finishing line	13.5 MMBtu/hr			
RC-1		1 Roll Coating Line		N/A		

Notes:

1. The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.
2. Cpd = cabinets per day

EMISSIONS INVENTORY

A copy of the 2012 annual emission update is attached.
Emissions are summarized in the following tables.

2012 Actual Emissions

	2012 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO_2	PM_{10}	NO_x
Facility Wide	145.96	--	--	8.1	--

2012 Facility Hazardous Air Pollutant Emissions

Pollutant	2012 Hazardous Air Pollutant Emissions in Tons/Yr
Toluene	6.5
Ethyl Benzene	4.1
Ethylene Glycol Butyl Ether	0
Methanol	0.29
Xylene	19.77
Free Formaldehyde	0.17
Naphthalene	0.02

Phenoxyethol	0.01
Cumene	0.01
MIBK	0
Plantwide Total	30.90

EMISSION UNIT APPLICABLE REQUIREMENTS – Emergency diesel engine (EG1)

Limitations
40 CFR 63 Subpart ZZZZ contains requirements for emergency engines of all sizes. EG1 is a 250 bhp engine that is operated for emergency purposes only. The MACT requires maintenance and operation requirements. The engine is subject to the opacity requirement for new and modified sources (9 VAC 5-50-80).

Monitoring and Recordkeeping
The MACT requires fuel, maintenance, and operation requirements that are monitored by fuel certifications, hours of operation, and other forms of recordkeeping. Visible emissions observations are required in any week the engine operates. This monitoring is adequate to determine compliance due to the intermittent nature of testing and operation of an emergency engine.

Streamlined Requirements
None

EMISSION UNIT APPLICABLE REQUIREMENTS – Woodworking Equipment

Limitations
Manufacturing equipment at the Elkay Wood Product Company includes woodworking equipment for which construction and operation was authorized in the NSR Permit dated May 23, 2005, which was superseded by a NSR permit dated August 30, 2005.
Elkay receives particle board, plywood and dimensionally cut lumber which has been predried. Woodworking equipment consists of numerous saws, planers, routers, sanders, etc. Woodworking operations generate particulate, which are controlled by baghouses.

The emission control and limitations are carried forward from the August 30, 2005 NSR permit into the Title V permit:

1. Condition 13. – Three baghouses are used to control PM emissions from woodworking equipment.

2. Condition 14. – Fugitive dust emission controls are included for collection and transfer of sawdust and wood shavings from woodworking operations.

3. Condition 15. - There is a grain loading efficiency for the baghouses for the woodworking equipment, as well as a ton/year limit.

4. Condition 16. – There is an annual hour limitation for each baghouse in how many hours each can vent to outside air.

5. Conditions 17 and 18. - There are visible emission limitations on the baghouses and fugitive emission points.

Monitoring / Recordkeeping
The monitoring and recordkeeping requirements are carried forward from the August 30, 2005 NSR permit into the Title V permit:

1. Condition 19. - Monitoring devices (differential pressure) are required for each baghouse.

2. Condition 20. - The permit includes requirements for maintaining records to include the following: monthly and annual hours of operation during which each baghouse was vented to outside air; volumetric flow rating for fans associated with each baghouse; differential pressure readings for each baghouse; and, results of all stack tests, visible emission evaluations and performance evaluations.

The gr/scf limit for PM for the baghouses included in the permit are taken from the August 30, 2005 NSR permit. The exit grain loading of 0.004 gr/dscf combined with a limit on the hours of exhaust to atmosphere (fabric filters) is more stringent than presumptive BACT. To provide an ongoing indication of baghouse performance, the permit requires that each baghouse be equipped with a device to continuously measure pressure drop. The units are also subject to CAM which is outlined below.

The permit contains plantwide emission limits for PM10. These limits were established in accordance with agency practice of establishing emission limits for any criteria pollutant expected to be emitted at a level greater than 0.5 tpy; primarily used for emission inventory purposes.

Compliance Assurance Monitoring (CAM)
CAM applies to an emissions unit if that unit (1) has the potential to emit (in the absence of add-on controls) a regulated pollutant in an amount that exceeds its major source threshold, (2) is

subject to an emission limitation for that pollutant, and (3) uses a control device to achieve compliance with the emission limitation.

The uncontrolled emission rate for PM (i.e. the only pollutant for which add-on control is required) from the machining and sub-assembly operations (Ref. BHS-1, BHS-2, and BHS-3) are more than the major source threshold of 100 tons/year. As such, the facility is subject to CAM. Visible emissions monitoring was selected as a performance indicator because the absence of visible emissions is indicative of operation of a fabric filter in a manner necessary to comply with the emission standard. When the fabric filters are operating properly, no visible emissions are expected from the exhaust. Any observation of visible emissions indicates reduced performance of the particulate control device and triggers corrective action.

Monitoring outlined in this section in conjunction with the recordkeeping are considered sufficient monitoring and recordkeeping to ensure compliance with the limits included in this permit.

Testing
The stack testing and visible emissions evaluation requirements are carried forward from the August 30, 2005 NSR permit into the Title V permit:

1. Conditions 32 and 33 pertain to stack testing and visible emissions evaluations at the facility.

Initial performance stack testing (NSR Conditions 16 and 17) were previously waived based on submittal of surrogate testing for a similar baghouse that operated under comparable conditions. The surrogate test indicated that the exit grain loading would likely be met if the baghouses were maintained in good condition.

Generally, the absence of visible emissions would be considered sufficient monitoring for the quantity of particulate emissions expected from Elkay (annual permit limits are 4.16 tons per year for BH1 and BH2, and 2.90 tons per year for BH3). However, Elkay had previously accepted an emission limit of 0.004 gr/dscf in order to avoid state requirements for dispersion modeling. Their predicted emission rate does not allow a large safety margin below their allowable limit. For that reason, the Title V permit requires periodic testing of one baghouse once every term (with each unit being tested once before any are re-tested). However, because the annual limits (which reflect the threshold for avoiding modeling) are not threatened if Elkay reduces the number of hours of venting to outside air, testing is waived for any permit term during which no filter is vented to outside for more than 2000 hours during every consecutive 12-month period.

The facility has consistently maintained hours in which each baghouse is vented to outside air

below 2000 hours during any 12 month period. The last site inspection conducted on July 18, 2012 listed the following: BH1- 1060.5 hours for a rolling 12-month period; BH2 – 1140.0 hours for a rolling 12-month period and BH3 1004 hours for a rolling 12-month period. As the facility has not vented the baghouse to the outside for over 2000 hours in any rolling 12-month period, stack testing has not been conducted on any of the baghouse units to date.

Reporting
The Recordkeeping and Reporting requirements of the Title V General Conditions apply to the woodworking equipment at the facility.

Streamlined Requirements
Condition 7 of the August 30, 2005 minor NSR permit has been streamlined from the permit. This condition required the facility to track VOC consumption for the first 11 months of operation. As the facility has been in operation for well over a year, this condition is no longer required.

Conditions 18 (Initial Notifications) and 19 (permit invalidation) of the August 30, 2005 minor NSR permit have been streamlined from the permit. The requirements in these conditions have been completed by the source or are no longer valid as construction of the facility is complete.

EMISSION UNIT APPLICABLE REQUIREMENTS – Furniture Finishing Equipment (H1, M1, M2, S1, RC-1)

Limitations
The finishing equipment consists of 19 spray booths, each equipped with a dry overspray filter for control of particulate emissions. The spray booths are configured as 3 lines of 6 booths each, plus one specialty line booth. Each finishing line is equipped with curing ovens; some are gas-fired and others are electric infrared dryers. Volatile organic compounds (VOCs), hazardous air pollutants (HAPS), PM and PM10 are all created in the finishing area.

The limitations are carried forward from the August 30, 2005 NSR permit into the Title V permit:

1. Condition 34. - Filters will control PM emissions from the spray booths.

2. Condition 35. - There is an annual throughput limit for VOCs from the facility.

3. Conditions 36 and 37. - The allowable emission rates and opacity rates are limited.

Monitoring / Recordkeeping

Monitoring for the spray booths has been added to the Title V permit. The recordkeeping requirements are carried forward from the August 30, 2005 NSR permit into the Title V permit:

1. Condition 34. - The permit includes daily observation requirements for visible emissions from the spray booths.

2. Condition 38.- The permit includes requirements for maintaining records to include the following: CPDSs, MSDSs or other vendor information showing the VOC content, HAP and VHAP content, water content, and solids content for each coating, adhesive, thinner, cleaning solvent or other VOC containing material used; monthly and annual throughput (in gallons) of each coating, adhesive, thinner, cleaning solvent, or other VOC containing material used in the manufacturing process; monthly and annual emissions calculations for VOC consumption and emissions from the finishing operations and solvent cleaning operations; in addition, the facility is required to maintain records for all stack tests, visible emission evaluations and performance evaluations.

The lb/hr limit for PM for the spray booths is taken from the August 30, 2005 NSR permit and represents BACT. The limit is based on a use of filters in the booths with a minimum control efficiency of 90% for PM10.

To provide an ongoing indication of the facility's spray booth filter performance as well as the spray booths opacity limits, the permit requires that the permittee conduct daily visible emission observations for the presence of visible emissions sufficient to identify corrective measures, if needed and to demonstrate compliance with proper operation and maintenance of the spray booths. With respect to this control equipment, the permittee is also required to maintain records of the spray booths dry filter inspections to maintain the equipment in proper working order.

The permit contains plant wide emission limits for PM10 and VOCs. These limits were established in accordance with agency practice of establishing emission limits for any criteria pollutant expected to be emitted at a level greater than 0.5 tpy; primarily used for emission inventory purposes.

The work practice standards of the wood furniture MACT outlined below represent BACT for VOC control. Compliance with the annual emission limit for VOC is demonstrated using a mass balance assuming all VOC used in finishing, thinning of coatings, and cleanup is emitted. Emissions are calculated monthly as the sum of each consecutive 12-month period

The emission control for PM10 in conjunction with the recordkeeping and the wood furniture MACT requirements outlined below are considered sufficient monitoring and recordkeeping to ensure compliance with the limits included in this permit.

Compliance Assurance Monitoring (CAM)
CAM applies to an emissions unit if that unit (1) has the potential to emit (in the absence of add-on controls) a regulated pollutant in an amount that exceeds its major source threshold, (2) is subject to an emission limitation for that pollutant, and (3) uses a control device to achieve compliance with the emission limitation.

The furniture finishing does not include any CAM affected units at this facility.

Testing
The permit does not require source tests for the furniture finishing operations. The DEQ and EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard

Reporting
The Recordkeeping and Reporting requirements of the Title V General Conditions apply to the furniture finishing equipment at the facility.

Streamlined Requirements
Both the current NSR permit dated August 30, 2005, as well as the Title V permit issued on January 1, 2008, include EC-1, which is an edge coat line machine. However, this unit was never installed and the facility has indicated there are no current plans to install this unit. The equipment has been removed from the Emissions Unit section of the Title V permit.

Condition 5 – of the August 30, 2005 minor NSR permit requires that VOC emissions from the finishing process be controlled by the work practice standards of Subpart JJ. This condition was streamlined from the permit. The work practice standards of 40 CFR 60, Subpart JJ have been included in the Title V permit therefore; this condition is duplicative and no longer necessary.

EMISSION UNIT APPLICABLE REQUIREMENTS – Wood Furniture MACT Requirements (Section IV)

Limitations
The finishing area is subject to the requirements of 40 CFR Part 63, Subpart JJ – National Emission Standards for Wood Furniture Manufacturing Operations. The permit includes all requirements of Subpart JJ. Subpart JJ was revised on November 21, 2011. Revisions for wood furniture manufacturing operations include a 1 percent formaldehyde coating and contact adhesive limit and an alternative 400 pound per 12-month formaldehyde use limit as well as a prohibition on the use of conventional spray guns. The effective date for these requirements is 3 years from the effective date of the standards or November 21, 2014.

Limitations of the MACT have been outlined in the permit and include:

1. VHAP weighted average limits for finishing operations or compliant finishing material limitations, or a combination of averaging and compliant coatings.
2. Strippable paint booth coatings VOC limits.
3. Compliant contact adhesive VHAP limits.
4. Formaldehyde emission limitations for coatings and contact adhesives.
5. Work Practice Implementation Plan requirements.
6. Operator Training requirements.
7. Inspection and Maintenance Plan requirements.
8. Cleaning and Washoff Solvent accounting system requirements.
9. Spray booth cleaning requirements.
10. Storage requirements for materials used.
11. Application equipment requirements.
12. Line cleaning requirements.
13. Gun cleaning Requirements.
14. Washoff operations requirements.
15. Formulation Assessment Plan for finishing operation requirements.
16. Operation and maintenance requirements.

Monitoring / Recordkeeping
The monitoring requirements of Subpart JJ have been outlined in the permit and include the following:

1. Condition 40.a.i. - Averaging calculation for finishing operations using averaging.

2. Condition 40.a.ii. - Compliance certification requirements for finishing operations using compliant coatings.

3. Condition 40.b. - Compliance certification requirements for finishing operations using compliant coatings.

4. Conditions 40.c. - Compliance certification requirements for contact adhesive operations using compliant adhesives.

5. Conditions 40.d. - Compliance certification requirements for formaldehyde emissions.

6. Condition 44.e. - Compliance certification requirements for work practice standards.

7. Condition 45.a.i. - Certified product data sheets for materials used at the facility.

8. Condition 45.b. - If the averaging method is used, copies of averaging calculations,

including documentation to support the calculations.

9. Condition 45.c. - Records to demonstrate compliance with the work practice implementation plan.

10. Condition 45.d. - Compliance certification records required by the MACT, including all other information submitted with the compliance status or semiannual reports.

11. Condition 45.f. - Records to demonstrate compliance with the MACT must be maintained for a period of 5 years.

The monitoring described above is at least as stringent as Compliance Assurance Monitoring (CAM). 40 CFR Part 63, Subpart JJ was promulgated on December 7, 1995. MACTs promulgated after 1990 are considered to have monitoring sufficient for CAM, and CAM is considered sufficient for periodic monitoring.

Testing
No specific testing is required with this MACT.

Reporting
The following reporting requirements for MACT affected equipment are included in the Title V permit:

1. Semi-annual reports to meet the requirements of Subpart JJ
2. Written notification if the facility exceeds the baseline level of material usage as outlined in Subpart JJ.

In addition, the Recordkeeping and Reporting requirements of the Title V General Conditions apply to the manufacturing facility.

Streamlined Requirements
Condition 13 of the August 30, 2005 minor NSR permit has been streamlined from the permit. This condition states that the MACT equipment identified in the permit shall be operated in compliance with the requirements of Subpart JJ. The applicable requirements of 40 CFR 60, Subpart JJ have been included in the Title V permit therefore; this condition is duplicative and not necessary.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting

semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration
This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

F. Failure/Malfunction Reporting
Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

U. Malfunction as an Affirmative Defense
The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Conditions 85 through 88. For further explanation see the comments on General Condition F.

Y. Asbestos Requirements
The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

STATE ONLY APPLICABLE REQUIREMENTS
None

FUTURE APPLICABLE REQUIREMENTS
Future applicable requirements are outlined in the Emission Unit Applicable – Wood Furniture MACT requirements – Limitations section above. Future applicable requirements are revisions to the Wood Furniture MACT that become effective on November 21, 2014.

INAPPLICABLE REQUIREMENTS
The Elkay Wood Product Company did not identify any inapplicable requirements in the Title V

permit application submitted. However, a DEQ evaluation indicated the following are inapplicable:

40 CFR Part 63, Subpart RRRR – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Furniture is not applicable to the Elkay Wood Product Company. This MACT is applicable to facilities that apply surface coatings to metal furniture by means of spray gun or dip tank. Elkay Wood Product does not do any surface coating of metal furniture.

40 CFR Part 63, Subpart HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources is not applicable to the Elkay Wood Product Company because the facility is a major source and this MACT is applicable to area sources.

40 CFR Part 63, Subpart XXXXXX – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories is not applicable to the Elkay Wood Product Company because the facility is a major source and this MACT is applicable to area sources.

40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial and Institutional Boilers and Process Heaters – Major Sources is not applicable to the Elkay Wood Product Company. The natural gas-fired curing ovens are not boilers and do not meet the definition of a process heater as defined in Part 63.7575, as the primary purpose is to transfer heat directly to materials in the ovens for curing purposes.

40 CFR Part 63, Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products is not applicable to the Elkay Wood Product Company as there are no PCWP manufacturing processes onsite.

(GHG)Emissions: There are no applicable GHG permitting requirements.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1]	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
SH1-4	N.G. fired space heaters 2 @ 0.1 MMBtu/hr 2 @ 0.175 MMBtu/hr	9 VAC 5-80-720 C		Total Combined <2.0 MMBtu/hr
MU1-5	Natural gas-fired make-up air units for ventilation	9 VAC 5-80-720 C		<7.6 MMBtu/hr

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION
The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION
The draft permit will be placed on public notice in the Danville Register & Bee from August 6, 2013 to September 5, 2013. The public comment period ran from August 6, 2013 to September 5, 2013. One comment was received and addressed. The EPA review period ended on September 5, 2013. Three comments were received and addressed.